REMARKS

Claims 14 and 19 to 28 as set forth in Appendix I of this paper are now pending in this case. Claim 18 has been canceled and Claim 14 has been amended as indicated to include the features of Claim 18. No new matter has been added.

The Examiner has rejected Claim 14 under 35 U.S.C. §112, ¶2, contending that the claim is indefinite because *"it is unclear what is meant by 'polytetrafluoroethylene'"*. Favorable reconsideration of the Examiner's position and withdrawal of the rejection under Section 112 is respectfully solicited. As evidenced by the attached copy of page 503 of ***Fried***'s textbook on *"Polymer Science and Technology"*[1)], the term in question is well known in the art and is used as a name for the polymer obtained by polymerization of tetrafluoroethylene[2)]. The test of definiteness is whether one skilled in the art would understand the bounds of the claim[3)], and the attached material corroborates that a person of ordinary skill in the art is well acquainted with the term *"polytetrafluoroethylene"*. Accordingly, the term in question is not deemed to render the subject matter of Claim 14 indefinite within the meaning of Section 112, ¶2. Favorable action is solicited.

The Examiner has rejected Claims 14, 18, 23, 25 and 27 under 35 U.S.C. §102(b) as being anticipated by the teaching of ***Barker et al.*** (**US 5,643,695**) which *inter alia* relates to electrodes comprising graphite particles and a binder[4)], and which refers with regard to the binder

- to a binder/electrolyte such as polymeric acrylates which are crosslinked by radiation curing or are based on conventional electrolyte/binder systems[5)], and
- to EPDM (ethylene propylene diene termonomers), PVDF (polyvinyli-

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1) Prentice Hall PTR 1995

2) Ie. page 15 of ***Fried***'s textbook, copy enclosed.

3) Morton Int. Inc. v. Cardinal Chem. Co., 5 F.3d 1464, 28 USPQ2d 1190 (CAFC 1993); Orthokinetics Inc. v. Safety Travel Chairs, Inc., 806 F.2d 1565, 1 USPQ2d 1081 (CAFC 1986)

4) Ie. col. 2, indicated lines 45 to 52, and col. 12, indicated lines 29 to 31, of ***US 5,643,695***.

5) Col. 12, indicated lines 34 to 40, of ***US 5,643,695***.

dene difluoride), ethylene acrylic acid copolymer, EVA (ethylene vinyl acetate copolymer), copolymer mixtures and the like[6].

In accordance with applicants' invention as defined in Claim 14 it is required that the polymeric material (II) of applicants' composition comprises a special (co)polymer (IIa) which *inter alia* meets the following criteria:

- the (co)polymer has reactive groups (RG) which are capable of crosslinking reactions under the action of heat and/or UV radiation,
- the (co)polymer has, as reactive groups (RG), at least one reactive group RGa and at least one group RGb which is different from RGa and is coreactive with RGa, and
- at least one group RGa and at least one group RGb are present on average over all polymer molecules.

Anticipation under Section 102 can be found only if a reference shows exactly what is claimed[7] and the test for anticipation is one of identity, cf. the identical invention must be shown in the reference in as complete detail as is contained in the claim[8]. The teaching of ***Barker et al.*** cannot be deemed to constitute an anticipating disclosure of applicants' invention because ***Barker et al.*** fail to identically describe a (co)polymer which has, as reactive groups (RG), at least one reactive group RGa and at least one group RGb which is different from RGa and is coreactive with RGa, and wherein at least one group RGa and at least one group RGb are present on average over all polymer molecules. It is therefore respectfully requested that the rejection of Claims 14, 18, 23, 25 and 27 under Section 102(b) based on the teaching of ***Barker et al.*** be withdrawn.

For completeness sake it is further respectfully submitted that the teaching of ***Barker et al.*** is not deemed to be sufficient to render applicants' invention as defined in Claims 14, 18, 23, 25 and 27 obvious within the meaning of 35 U.S.C. §103(a). In order to establish a *prima facie* case of obviousness under Section 103 all of the following three basic criteria have to be met:

(1) There must be some suggestion or motivation, either in the reference itself or in the knowledge generally available to one of ordi-

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6) Col. 17, indicated lines 56 to 60, of ***US 5,643,695***.

7) Ie. Titanium Metals Corp. v. Banner, 778 F.2d 775, 227 USPQ 773 (CAFC 1985); In re Marshall 577 F.2d 301, 198 USPQ 344 (CCPA 1978); In re Kalm 378 F.2d 959, 154 USPQ 10 (CCPA 1967).

8) Ie. Richardson v. Suzuki Motor Co., 868 F.2d 1226, 9 USPQ2d 1913 (CAFC 1989).

nary skill in the art, to modify the reference as is necessary to arrive at the claimed invention.

(2) There must be a reasonable expectation of success.

(3) The prior art reference must teach or suggest all of the claim limitations.

Additionally, the teaching or suggestion to make the claimed combination and the reasonable expectation of success must both be found in the prior art and cannot be based on the applicant's disclosure[9].

Where applicants' invention and the teaching of ***Barker et al.*** are concerned, the suggestion or motivation to do what applicants have done is lacking because a modification of ***Barker et al.***'s binder material in the manner necessary would not serve any apparent purpose. Accordingly, the first of the three criteria is not met. Moreover, the teaching of ***Barker et al.*** contains nothing which suggests a binder material comprising a (co)polymer which meets all of the specific requirements of applicants' (co)polymer (IIa) set forth in Claim 14. As such, the last of the three criteria is also not deemed to be met. Since all three of the criteria have to be met to establish obviousness within the meaning of Section 103(a), the teaching of ***Barker et al.*** cannot be considered to render applicants' invention prima facie obvious. Favorable action is respectfully solicited.

The Examiner has indicated that Claims 19 to 22, 24, 26 and 28 would be allowable except for the fact that those claims depended upon a rejected claim. In light of the foregoing and the attached, all of applicants' claims should therefore be in condition for allowance. Early action by the Examiner would be greatly appreciated by applicants.

In the event that the Examiner is of the opinion that further explanations or clarifications are necessary or desirable in this matter, it would be appreciated if the Examiner would grant applicants' representative the opportunity address such matters in a personal interview to facilitate the proceedings.

REQUEST FOR EXTENSION OF TIME:

It is respectfully requested that a *two* month extension of time be granted in this case. A check for the *$420.00* fee is attached.

9) In re Vaeck, 947 F.2d 488, 20 USPQ2d 1438, 1442 (CAFC 1991)

Please charge any shortage in fees due in connection with the filing of this paper, including Extension of Time fees, to Deposit Account No. 11.0345. Please credit any excess fees to such deposit account.

Respectfully submitted,
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Encl.: THE LISTING OF CLAIMS (Appendix I)
Fried *"Polymer Science and Technology"*, Prentice Hall PTR, 1995, pp. 15 and 503

HBK/BAS

APPENDIX I:

THE LISTING OF CLAIMS:

1. *(canceled)*

2. *(canceled)*

3. *(canceled)*

4. *(canceled)*

5. *(canceled)*

6. *(canceled)*

7. *(canceled)*

8. *(canceled)*

9. *(canceled)*

10. *(canceled)*

11. *(canceled)*

12. *(canceled)*

13. *(canceled)*

14. *(currently amended)* A composition comprising

(a) from 1 to 99% by weight of a solid (I) which is selected from a group consisting of compounds Ia, Ib, Ic, mixtures of compounds Ia and Ib, and mixtures of compounds Ia and Ic, wherein the compounds have a primary particle size of from 5 nm to 100 μm, and

which solid (I) is insoluble in a liquid electrolyte suited for use in an electrochemical cell,

(b) from 1 to 99% by weight of a polymeric material (II),

wherein

the compound Ia is selected from the group consisting of

inorganic oxides, mixed oxides, silicates, sulfates, carbonates, phosphates, nitrides, amides, imides and carbides of the elements of main groups I, II, III and IV and transition group IV of the Periodic Table, polymers selected from the group consisting of polyethylene, polypropylene, polystyrene,

polytetraflouroehtylene, polyvinylidene fluoride, polyamides and polyimides; dispersions comprising said polymers; and a mixture of two or more thereof;

the compound Ib is selected from the group consisting of

$LiCoO_2$, $LiNiO_2$, $LiNi_xCo_yO_2$ and $LiNi_xCo_yAl_zO_2$, where $0<x,y,z\leq 1$, Li_xMnO_2 ($0<x\leq 1$), $Li_xMn_2O_4$ ($0<x\leq 2$), Li_xMoO_2 ($0<x\leq 2$), Li_xMnO_3 ($0<x\leq 1$), Li_xMnO_2 ($0<x\leq 2$), $Li_xMn_2O_4$ ($0<x\leq 2$), $Li_xV_2O_4$ ($0<x\leq 2.5$), $Li_xV_2O_3$ ($0<x\leq 3.5$), Li_xVO_2 ($0<x\leq 1$), Li_xWO_2 ($0<x\leq 1$), Li_xWO_3 ($0<x\leq 1$), Li_xTiO_2 ($0<x\leq 1$), $Li_xTi_2O_4$ ($0<x\leq 2$), Li_xRuO_2 ($0<x\leq 1$), $Li_xFe_2O_3$ ($0<x\leq 2$), $Li_xFe_3O_4$ ($0<x\leq 2$), $Li_xCr_2O_3$ ($0<x\leq 3$), $Li_xCr_3O_4$ ($0<x\leq 3.8$), $Li_xV_3S_5$ ($0<x\leq 1.8$), $Li_xTa_2S_2$ ($0<x\leq 1$), Li_xFeS ($0<x\leq 1$), Li_xFeS_2 ($0<x\leq 1$), Li_xNbS_2 ($0<x\leq 2.4$), Li_xMoS_2 ($0<x\leq 3$), Li_xTiS_2 ($0<x\leq 2$), Li_xZrS_2 ($0<x\leq 2$), Li_xNbSe_2 ($0<x\leq 3$), Li_xVSe_2 ($0<x\leq 1$), Li_xNiPS_2 ($0<x\leq 1.5$), Li_xFePS_2 ($0<x\leq 1.5$), $LiNi_xB_{1-x}O_2$ ($0<x<1$), $LiNi_xAl_{1-x}O_2$ ($0<x<1$), $LiNi_xMg_{1-x}O_2$ ($0<x<1$), $LiNi_xCo_{1-x}VO_4$ ($1\geq x\geq 0$), $LiNi_xCo_yMn_zO_2$ ($x+y+z=1$), $LiFeO_2$, $LiCrTiO_4$, $Li_aM_bL_cO_d$ ($1.15\geq a>0$; $1.3\geq b+c\geq 0.8$; $2.5\geq d\geq 1.7$; M = Ni, Co, Mn; L = Ti, Mn, Cu, Zn, alkaline earth metal), $LiCu_x^{II}Cu_y^{III}Mn_{(2-(x+y))}O_4$ ($2>x+y\geq 0$), $LiCrTiO_4$, $LiGa_xMn_{2-x}O_4$ ($0.1\geq x\geq 0$), poly(carbon sulfides), V_2O_5; and a mixture of two or more thereof,

the compound Ic is selected from the group consisting of

lithium, a lithium-containing metal alloy, micronized carbon black, natural and synthetic graphite, synthetically graphitized carbon powder, a carbon fiber, titanium oxide, zinc oxide, tin oxide, molybdenum oxide, tungsten oxide, titanium carbonate, molybdenum carbonate, zinc carbonate, $Li_xM_ySiO_z$ ($1>x\geq 0.1>y\geq 0$, $z>0$), Sn_2BPO_4, conjugated polymers, lithium metal compounds; and a mixture of two or more thereof,

and wherein

where the solid (I) is the mixture of Ia and Ib, the composition further comprises from 0.1 to 20% by weight, based on the total weight of components I and II, of conductive carbon black; and

where the solid (I) is the mixture of Ia and Ic, the composition further comprises up to 20% by weight, based on the total weight of the components I and II, of conductive carbon black;

and wherein said polymeric material (II) comprises

from 1 to 100% by weight of a polymer or copolymer (IIa) which has, as part of the polymer chain, at the end(s) of said chain and/or laterally on said chain, reactive groups (RG) which are capable of crosslinking reactions under the action of heat and/or UV radiation, and

from 0 to 99% by weight of at least one polymer or copolymer (IIb) which is free of reactive groups (RG);

and wherein the polymer (IIa) has, as reactive groups (RG),

at least one reactive group RGa which in the triplet excited state under the action of heat and/or UV radiation is capable of hydrogen abstraction, and

at least one group RGb which is different from RGa and is coreactive with RGa,

with at least one group RGa and at least one group RGb being present on average over all polymer molecules.

15. (*canceled*)

16. (*canceled*)

17. (*canceled*)

18. (*canceled*)

19. (*previously presented*) The composition as claimed in claim 14, wherein the polymer (IIa) is a polymer or copolymer of an acrylate or methacrylate and has reactive groups RGa which comprise benzophenone units and reactive groups RGb which comprise dihydrodicyclopentadiene units.

20. (*previously presented*) The composition as claimed in claim 14, wherein the polymer (IIb) is selected from the group consisting of

a polymer or copolymer of vinyl chloride, acrylonitrile, vinylidene fluoride;

a copolymer of vinyl chloride and vinylidene chloride, vinyl chloride and acrylonitrile, vinylidene fluoride and hexafluoropropylene, vinylidene fluoride and hexafluoropropylene;

a terpolymer of vinylidene fluoride and hexafluoropropylene together with a member of the group consisting of vinyl fluoride, tetrafluoroethylene and trifluoroethylene.

21. (*previously presented*) The composition as claimed in claim 19, wherein the polymer (IIb) is a copolymer of vinylidene fluoride and hexafluoropropylene.

22. (*previously presented*) A composite comprising at least one first layer and at least one second layer, wherein the first and the second layer are obtained by crosslinking a composition as defined in claim 14, and wherein the first layer comprises the compound Ib or the compound Ic, and the second layer comprises the compound Ia and is free of the compounds Ic and Ib.

23. (*previously presented*) A method of producing a crosslinked composition which comprises crosslinking the composition defined in claim 14 thermally or by irradiation with ionic or ionizing radiation, an electron beam, UV or visible light, by electrochemically induced polymerization or by ionic polymerization.

24. (*previously presented*) A method of producing the composite defined in claim 22 which comprises

    (I) producing the at least one first layer by crosslinking the composition comprising the compound Ib or the compound Ic thermally or by irradiation with ionic or ionizing radiation, an electron beam, UV or visible light, by electrochemically induced polymerization or by ionic polymerization,

    (II) producing the at least one second layer by crosslinking the composition comprising the compound Ia and being free of the compounds IB and Ic thermally or by irradiation with ionic or ionizing radiation, an electron beam, UV or visible light, by electrochemically induced polymerization or by ionic polymerization, and

    (III) combining the at least one first layer and the at least one second layer by means of a conventional coating process.

25. (*previously presented*) A solid selected from the group consisting of an electrolyte, a separator, an electrode, a sensor, an electrochromic window, a display, a capacitor and an ion-conducting film, which solid comprises the crosslinked composition obtained by the method of claim 23.

26. (*previously presented*) A solid selected from the group consisting of an electrolyte, a separator, an electrode, a sensor, an electrochromic window, a display, a capacitor and an ion-conducting film, which solid comprises the composite defined in claim 22.

27. *(previously presented)* An electrochemical cell comprising the solid electrolyte, the separator or the electrode defined in claim 25.

28. *(previously presented)* An electrochemical cell comprising the solid electrolyte, the separator or the electrode defined in claim 26.

29. *(canceled)*

re MÖHWALD et al.
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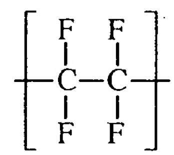
nonreinforced plastics has been offered by the American Society for Testing and Materials (ASTM).

The IUPAC structure-based rules for naming organic, inorganic, and coordination polymers have been compiled in a recent publication.[2] Although such nomenclature provides an unambiguous method for identifying the large number of known polymers (over 60,000 polymers are listed in the CAS Chemical Registry System), semisystematic or trivial names and sometimes even principal trade names (much to the displeasure of the manufacturer) continue to be used in place of the frequently unwieldy IUPAC names. As examples, the IUPAC name for polystyrene is poly(1-phenylethylene) and that for polytetrafluoroethylene



is poly(difluoromethylene) — a polymer more typically recognized by its trademark, Teflon™.

TABLE 1.5 SCHEME FOR NAMING COPOLYMERS

Type	Connective	Example
Unspecified	*-co-*	Poly[styrene-*co*-(methyl methacrylate)]
Statistical[a]	*-stat-*	Poly(styrene-*stat*-butadiene)
Random	*-ran-*	Poly[ethylene-*ran*-(vinyl acetate)]
Alternating	*-alt-*	Poly[styrene-*alt*-(maleic anhydride)]
Block	*-block-*	Polystyrene-*block*-polybutadiene
Graft	*-graft-*	Polybutadiene-*graft*-polystyrene

[a] A statistical polymer is one in which the sequential distribution of the monomeric units obeys statistical laws. In the case of a random copolymer, the probability of finding a given monomeric unit at any site in the chain is independent of the neighboring units in that position.

For convenience, several societies have developed a very useful set of two-, three-, and four-letter abbreviations for the names of many common thermoplastics, thermosets, fibers, elastomers, and additives. Sometimes, abbreviations adopted by different societies for the same polymer may differ, but there is widespread agreement on the abbreviations for a large number of important polymers. These abbreviations are quite convenient and widely used. As examples, PS is generally